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ILLINOIS A GRICULTURIST



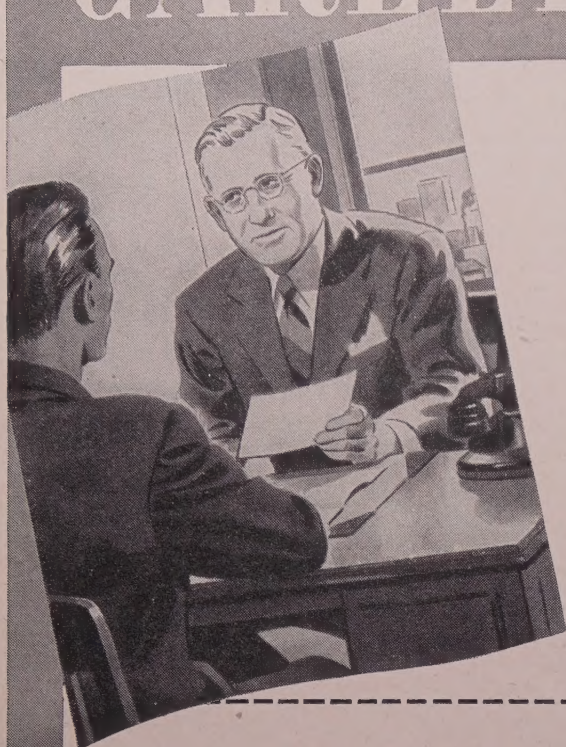
Fifty-Third Year

NOVEMBER, 1948

Member A.C.M.A.



CAREERS AT GENERAL ELECTRIC



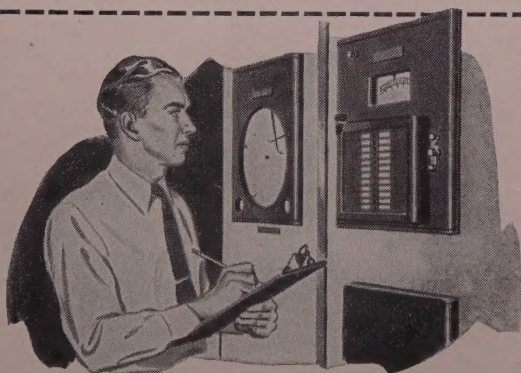
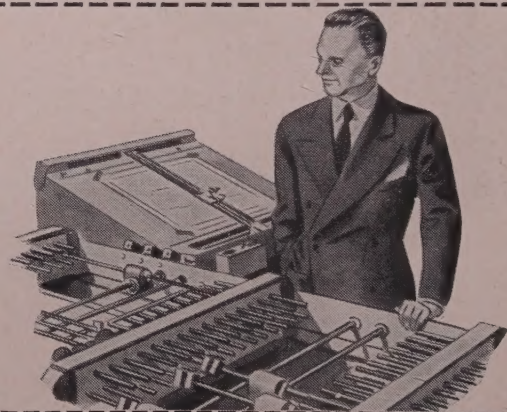
General Electric is not one business, but an organization of many businesses, offering opportunities in virtually all the professions. Here three G-E men brief the career-possibilities which the company offers to the technical graduate, the mechanical engineer, and the chemical engineer.

TECHNICAL SPECIALISTS: MEET YOUR HOST

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MECHANICAL ENGINEER

H. P. Kuehni, of the General Engineering and Consulting Laboratory: Much of my work has to do with such hurry-up calculating machines as the differential analyzer, the AC network analyzer, and the electronic digital computer. For the engineer with a bent toward mathematics, these machines are opening up exciting possibilities in many problems whose mathematical complexities, or sheer length, have heretofore discouraged investigation.



CHEMICAL ENGINEER

Gil Bahn (Columbia), graduate of the G-E Advanced Scientific Program: Graduation from this program poses an interesting problem to the chemical engineer. Which of the company's diverse fields of endeavor offers the greatest challenge and opportunity? My own choice was in plastics, particularly the complex processes used in manufacturing synthetic phenol. I'm convinced it's one of the most fascinating tasks a young chemical engineer could tackle.

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THE ILLINOIS AGRICULTURIST

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OUR COVER: Dottie Hawver didn't need lessons to win the tractor driving contest and become queen of All-Ag Field Day.

OUR PLATFORM

To acquaint students and faculty in the College of Agriculture, agricultural leaders, and the rural people of Illinois with the latest scientific developments in agriculture and home economics.

To report events of general interest on the College of Agriculture campus.

To serve as a means of training agricultural and home economics students in journalism and business administration.

To promote the best interests of agricultural and home economics students on the campus of the University of Illinois.

WE'RE FARMERS—AND PROUD OF IT!

Here on the campus of a great University over 18,000 students are enrolled. As students in the College of Agriculture we number only 1,500. However, even if we are in the minority, there is certainly no reason why we should not feel equal to any other students on the campus.

Too often there is a tendency for ag students exposed to an unfamiliar campus and living in a city for the first time to feel inferior to their classmates in other colleges. They are afraid to venture out into extra-curricular activities for fear of missing out on a little studying. They hesitatingly say that they are in ag college when they are in a group of mixed students.

This sheepish attitude of "I'm just a boy (or girl) from the country" is held by too many agricultural students on our own campus. This outlook is evident by lack of participation in extra-curricular activities and an inferiority complex in the classroom. These students are usually not ag or home-ec club members. If they are members, they seldom attend meetings or activities of these organizations or any other University activity. They know very few of the ag college faculty and know very little about campus affairs.

On the other hand, we have among our classmates in the College of Agriculture the leaders of ag campus activities and some all-University activities.

It's the student who proudly says "I'm in the College of Agriculture," who goes out on campus and after working hard makes a judging team, a committee chairmanship, or an office in his organization.

In the same way, it is the farmer who is proud of his occupation who becomes a leader in his community. Certainly the leaders in our great farmers' organizations would not hold their positions if they were not proud to be associated with the field of agriculture.

Agriculture today is becoming increasingly more technical and scientific. The old idea that to be a farmer required only a "strong back and a weak mind" is gone forever.

Yes, whether we are on the campus of the University of Illinois, doing some phase of agricultural service work, or farming in our home community, WE'RE FARMERS—AND PROUD OF IT!!!

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Left—Field Inspection of foundation seed corn plots for uniformity of type. Right—One day's receipts of seed samples for testing in the laboratory. Acreage inspected for certification in Illinois increased from 45,000 acres to 150,000 in one year!

Your Guarantee of Quality Seed

By Glyndon Stuff

The increase and distribution of seed of superior crop varieties true to name is the organized plan of the certification of seed. Certified seed is to the agronomist what registered livestock is to the animal husbandman. The aim of both is a guarantee to the purchaser that he is obtaining foundation stock, whether it be seed or livestock that is genetically pure.

Farmers no longer question the advisability of "getting the papers" when they purchase registered livestock. Alert farmers who realize the great improvements that are being made in crops, more and more are demanding certified seed.

While the certification of seed is not new it is relatively newer than the registration of livestock. The progress of seed certification was launched in the United States 30 years ago. Its purposes were to maintain the purity of the new crop from the time it left the originator or plant breeder until seed of it was available to supply interested farmers thruout the areas of adaptation. The producers of the new crop needed to become acquainted with its characteristics and encouraged to keep it pure as to variety. The producers needed help to recognize the more serious weeds and to practice the best methods of control.

Old Methods Need Revision

Prior to the launching of the program of seed certification, new creations of the plant breeder were released to farmers in small quantities from a few pounds to a few bushels at the most. Many of the recipients of this seed had not seen the particular variety or kind growing.

Therefore, they did not know the characteristics and could hardly be expected to keep the new crop pure as if they had frequent advice and supervision. Many of the new crops released under this new system soon became so badly mixed that they lost much of their original value.

With the inauguration of the program of certification several changes in pro-

Here's the story behind the tag of guaranteed quality and purity when you buy certified seed. For the information and pictures in this feature we are indebted to the Illinois Crop Improvement Association and J. C. Hackleman, professor of crops extension in the department of agronomy.

cedure took place. First, instead of distributing only enough foundation stock for a small plot for each producer, the original lot of seed was increased at least once more in closely supervised fields or plots. This then made it possible to allot farmers amounts of seed large enough for field units.

These farmers' fields were then inspected, prior to harvest, by trained inspectors who advised the grower as to the purity of his grain and if impurities were found he was shown how to rogue out these mixtures and thus improve the seed.

In addition the inspectors were constantly on the lookout for weeds and the grower was advised to remove these before harvest. After the harvest a repre-

sentative lot of the uncleaned seed, ready for sale, was taken by a State Crop Improvement Association Inspector to the Association laboratory where it is tested for purity and germination.

Superiority Guaranteed

Since seed certification is limited to those varieties which are tested and approved by the state or provincial agricultural experiment stations, only superior varieties are recognized. Thus the farmer who is interested in obtaining seed of a new variety can rest assured that it is adapted if it is certified in his state or province.

Conversely the fact that untested and unadapted varieties are not eligible for certification in a given state has had a tendency to retard the distribution of such seed. The fact that a variety of grain may be eligible for certification in Montana, Idaho, Utah or Canada is not a guarantee that it is adapted to the corn belt or east. Varieties adapted in Illinois will be approved by the Agricultural Experiment station and recommended to the Illinois Crop Improvement association for certification.

The value of seed certification is becoming more important with the release of each new creation of the plant breeder. If the seed characteristics of each and every variety were distinctly different that their positive identification could be assured, certification would not become so important.

Naturally seed characteristics alone cannot be depended upon. It becomes necessary to have some form of registra-

(Continued on page 16)

College Profs Make Successful Farmers

By Ross Hostetter

The Allerton farms lying north of the Sangamon river in Piatt county, were a part of the gift of Robert Allerton to the University on October 14, 1946. The gift also included the park area along the river and the Illinois 4-H memorial camp.

Responsibility of managing these farms was given to the College of Agriculture, department of agricultural economics. Rather than spend large sums of University funds, the College has followed a system of management by which the improvements are made as income from these farms is available.

Ag College Takes Over

The first step in the operation of the farms was to take inventory and determine the condition of land, buildings, and fences at the time the farms were given to the University.

The soil survey taken in the fall of 1946 showed that most of the fields needed some application of limestone and phosphate. Since money from the 1946 corn crop was available it was decided to fulfill the requirements of the land as shown by the tests as soon as possible.

During 1947 over two thousand tons of limestone and over seven hundred tons of residue phosphate were spread. Three years of application at this rate should fill the soil requirements as shown by the tests. Maintenance requirements are estimated to be about one thousand tons of limestone and two hundred tons of rock phosphate annually after the initial deficiencies have been corrected.

Planning a Cropping System

The next step in the management of the farms was to work out a long time cropping system. These long-time cropping plans are to be worked out for each farm. Because of the variety of conditions prevailing on the farms as to topography, soil type, drainage conditions, etc., different rotations and special conservation practices were found necessary. In 1947 the rotation cropland totaled three thousand acres. The remaining seven hundred acres included permanent pasture, farmstead lots, lanes, bottom land, etc.

The attempt, over a period of time, is to get all the farms into a workable rotation that will have each year from 20-30 per cent of the cropland in soil building legumes.

In cooperation with the department of agronomy, the production and distribution of new seed varieties is being car-

ried out. By this plan the department of agronomy can maintain closer control of the production of the new varieties.

All of the oats grown on the farms in 1947 were of the Clinton variety, and were certified through the Illinois Crop Improvement association for sale as seed. One farm produced 88 acres of special selection of Clinton oats, commonly known as "Strain 11," which is more uniform in maturing and in disease resistance.

Other special crops grown in 1947 were 42 acres of Hawkeye soy beans, a new early maturing variety, and 53 acres of Royal wheat, a new high-yielding variety. This year all of the wheat sown for harvest is Royal, and the seed oats for 1948 on all the farms came from the specially selected strain of Clinton known as Strain 11.

Problems Encountered

One of the big problems needing attention on the Allerton farms is that of drainage. A large part of the land is quite flat, and most of the soil is rather heavy. All of the farms have pond areas that need tiling.

One of the first steps toward gathering necessary preliminary information was the arranging for a complete topographic survey. This survey was completed during the summer of 1947.

The Allerton farms lie in the type of farming region commonly known as the cash-grain area where a relatively small

amount of livestock is raised. How to utilize all of the clover and other legumes grown in the rotations necessary for good land use is a problem for all farms where most of the income is from cash grain sales.

One of the possibilities is to raise red clover and harvest it for seed which can be sold for cash. Clover seed production in Central Illinois has been quite variable, and for some unknown reasons, the per acre yield has been steadily declining. In order to help solve the problem they are cooperating with the department of agronomy and V. G. Milum, associate professor of entomology.

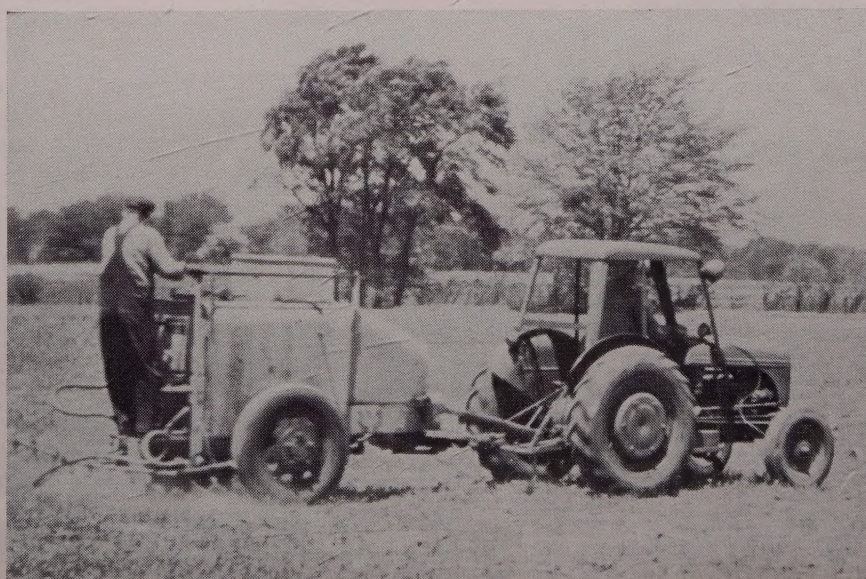
Keeping Farm Accounts

For years many farmers have recognized the necessity for keeping a record on their farm business for the purpose of finding the strong and weak points in their organization and operation.

The department of agricultural economics has developed over a period of years, a farm accounting project commonly known as the Farm Bureau-Farm Management service. The cooperating farmer keeps a special account book and a trained fieldman visits the farm at regular intervals to supervise the keeping of the record and discuss management problems.

At the end of the year the completed books are brought to the University for summarizing and analyzing. The results are returned to the farmer who can study them for ways to improve his business. All eight of the Allerton tenants will keep these records in 1948.

These farms, held in trust by the University, are operated for income and therefore cannot be called experimental farms. However, the College of Agriculture will try new methods, practices, varieties of crops, or breeds of livestock which show promise of being better than what is being used, just the same as any other enterprising farmer would do.



Weed spraying operations on the Allerton farms.

THE NEW LEAF IN HAY CURING

By Lyle Toepke

Another leaf has been added to the methods of curing hay. This leaf is greener and of higher protein and carotene content than is sun-cured baled hay. This new leaf is the result of finish-curing stacked bales of hay with heat.

The department of agricultural engineering and dairy production here at the University carried out experiments in the summers of 1947 and 1948 showing that crop dryers using heat from fuel oil burners can be used successfully in the finish-curing of stacked, partly sun-cured baled hay.

Precautions in Heat-Curing

There are several precautions which must not be overlooked in finish-curing baled hay. First, the moisture content of the hay when brought in from the field should not be more than 30 to 35 per cent. Second, the hay must not be piled too high so that all of it can receive the proper ventilation and heat. Third, the bales must be loosely tied, otherwise the hay in the center of the bale will not be properly dried.

To avoid a fire hazard, the stack should

be placed at a safe distance from buildings. Experiences of the two departments have not yet warranted the use of heat for drying hay in the barn hay mows.

In one particular trial, the alfalfa hay was cut in the morning, raked in the afternoon of the same day, and baled the following morning. The type of stack built was one with a central tunnel through it to blow the heated air in. The opposite end of the tunnel was tightly closed to prevent the loss of air.

Around the base of the stack, a small trench was dug to prevent water from running underneath the bales. A large tarpaulin was used to cover the stack.

The bales had an average moisture content of 30 per cent and weighed 60 to 70 pounds each. The drying process began at 3:00 p. m. on the day it was baled with two burners furnishing heat for the first 12 hours and only one burner for the next eight hours of drying.

Results Obtained

When the bales were removed from the stack and examined they were found

in a satisfactory condition. The moisture content of the bales next to the air duct contained seven per cent moisture; the bales at the top and ends of the stack contained 19 per cent, which is well below the maximum moisture content of 25 per cent for safe storage.

The hay had a protein content of 18.7 per cent, and a carotene content of 21,000 units per pound which is much higher than the average run of field cured hay. The hay was much greener in color and the loss of leaves was reduced to a minimum.

The fuel cost was \$1.37 per ton of finished hay, based on the cost of fuel at the time of the experiments.

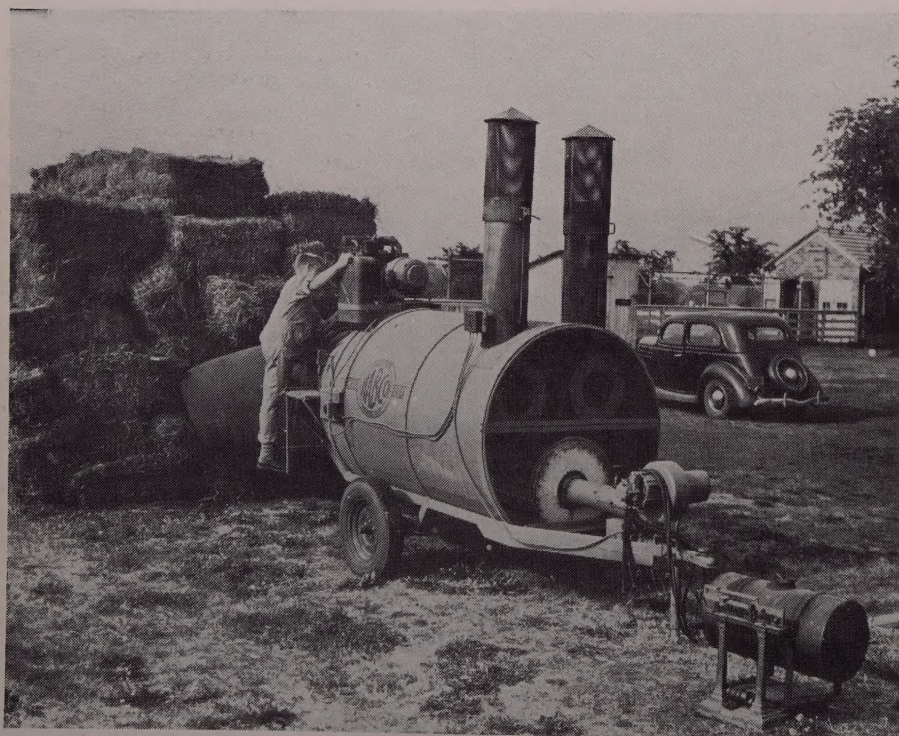
Advantages vs. Disadvantages

There are some definite advantages of using heat in addition to forced ventilation for the finish-curing of hay. They are: the drying process may continue during the night; it may continue during adverse weather conditions; and perhaps one of the most outstanding features of this system is the reduction of the drying time needed, perhaps only one-fourth as much as by forced ventilation alone.

Like any other method of curing hay, this heat drying has its disadvantages too. The hay cannot contain too much moisture and the bale must be loosely tied. If tied too loosely, the dry bales will fall apart when handled. The bales must be stacked on edge.

The bales next to the tunnel must be at right angles to it and stacked loosely to permit the passage of air between them. The bales at the edge of the stack must be placed close together to minimize the amount of air loss.

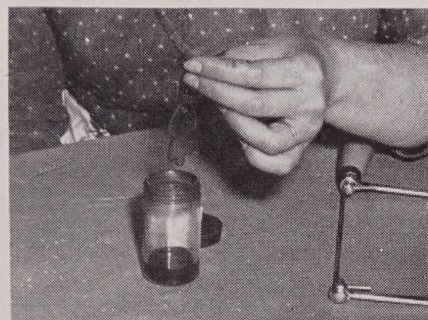
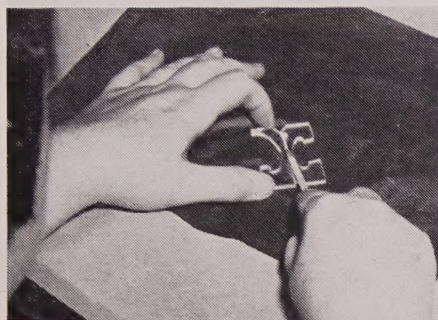
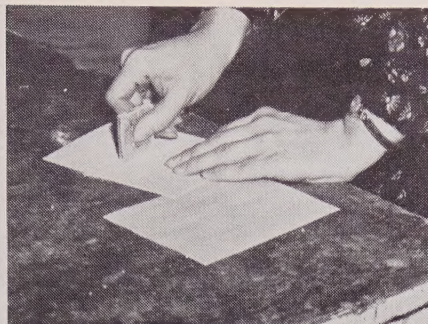
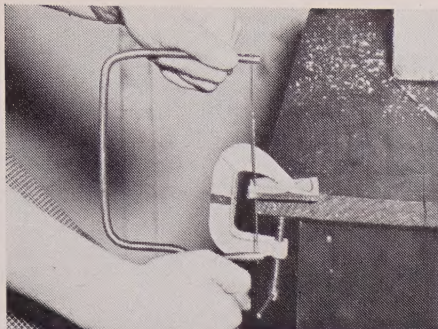
Even though much more work needs to be done on this type of hay-making, those conducting the experiment feel sure that this type of hay-making will have a place on dairy farms, especially since good quality legume hay is one of the most economical feeds for dairy cattle.



Hay drying equipment used on University dairy farm. Heat from the oil burner is drawn into the stack through the canvas duct by a motor driven fan.



"Mrs. Jones—that box of eggs finally arrived."



Upper left —Plan the design and cut it out.
Upper right—Sandpaper helps smooth rough edges.
Lower left—Cleverness with a file makes your design.
Lower right—Dipping in dye gives the final product.

WISHES COME TRUE WITH PLASTICS

By Rosemary Archibald

Have you ever searched every store in town without success for a button of a particular size or shape? Maybe you'd like a salad bowl to hold exactly as much as your family will eat. A handicraft project begun by the Illinois Extension service in 1946 may be the solution to your problems. This new field in handicraft is that of plastics. It requires very few tools, is inexpensive, durable and easy to work with.

Possibilities are almost unlimited where plastics are concerned. After the plastic has been placed in a 300 degree oven for a few minutes it can be bent to any shape desired or may be cut and shaped with a fine bladed coping saw. You can have any design you like simply by carving upon the surface with a small hand tool or by scoring it with a saw. Almost any article you desire can be made exactly as you want it.

For example, this comes in handy when you want a very special type of button. Just go ahead and make it. It's easy, fun and inexpensive. In fact, it costs only about three cents a button.

Or have you ever had an unusual gift in mind for someone but unfortunately had to settle for something else? Perhaps a gift like a salad fork and spoon with extra long handles would be nice. You don't have to be satisfied with regulation length—you can make them.

Are you wondering if plastic work requires a lot of artistic ability? The answer is no. It does take planning for the basic form must be good to turn out a good looking finished product. Here, simplicity is the keynote. The simpler the design the more effective the article. Plastics do require work to get top grade results. It is a careful craft, but not a monotonous one. Have you considered it? It might be just the pastime for your leisure hours.

Plastics require work to get results but every bit of the process is fun and easy. After you have worked out your basic form and sawed a sheet of plastic to that shape, smooth the edges with fine sandpaper. Carve in a design if you desire or bend it and you're finished. It's easy, simple, lots of fun and requires no expensive equipment; just a small saw, a fine triangular file, very fine sandpaper and steel wool.

Gone are the days when handicraft was used for making hundreds of gadgets with no practical value. Think of the useful things you can make with plastics—anything that can be bent, sawed, or glued together from a sheet of Lucite or Plexiglas, two of the commonly used materials. Let your imagination run riot and you'll be amazed at the variety of articles that can be made.

STARVE THOSE HUNGRY BUGS

By Koreen Krapf

Have you properly prepared your precious summer suits and dresses for their eight months' rest? If not, keep these hints in mind:

The first rule for storing clothes is: store them perfectly clean! Dirt actually helps wear out fabrics. Ordinary dust is full of tiny particles with sharp cutting surfaces. If you take your favorite jersey while it is still soiled from office wear, and store it packed down tightly with other garments, a nice job of friction and abrasion goes on while you're not looking! Remove spots and stains from unwearables and hang outdoors for thorough airing.

Wash All Washables

Wash everything that's washable and store it unironed, unstarched, and unbleached. Simply use lots of suds and rinse that cotton chambray dress or linen suit well. Even new linens that are to be stored should be washed to remove possible sizing; any residue of starch will cause mildew. To keep white cottons and linens sparkling white, wrap in blue paper and store.

Dry-clean precious non-washable silks and rayons and hang away in a sealed protective bag or box. To seal tightly, scotch-tape ends of the bag. For valuable garments such as men's summer suits, consider letting your drycleaner store, as well as clean them. Also, he will return to-be-stored clothes in special moth-resistant garment bags on request.

Starve Hungry Moths

In using moth preventing aids, remember that moth-proof boxes or closets must be airtight. Many a discouraged moth has found that crystals or sprays are only temporarily effective. Be generous with the moth crystals—one pound for a small trunk or chest. Since moths also dislike printer's ink, use newspaper to wrap the garments.

Mend all sagging hems, replace missing buttons and carefully repair all summer shirts and dresses.

In packing, avoid sharp folds. Delicate lawns and dimities are likely to wear thin at creasing points so softly roll them. When you do fold, follow the lines of the garment. Fold at the waistline, cross sleeves carefully across the upper front and be careful of the shoulders. Try packing the family's swimming suits in glass jars.

Don't invite hungry little animals to feast at your house this winter. Store the clothes perfectly clean and repaired, in carefully sealed containers. You'll be able to greet next summer's heat with an already complete wardrobe.

U. of I. Judging Teams . . .

MAKE READY FOR ACTION

Students in the College of Agriculture have a great opportunity for practical experience, fun, and sight-seeing in the various judging teams which are representing Illinois at the important national contests this fall.

The livestock judging team, coached by Fred C. Francis, had twelve strong contenders for positions on the five man team. The team members were selected after several practice sessions, which included trips to Ohio State, Purdue, Michigan State, the Circle A ranch at Morris, and the Marellebar farms at Libertyville.

The real tests for the livestock team come at the American Royal in Kansas City and the International in Chicago. Approximately thirty teams from the United States and Canada will compete at the International.

Judging Poultry

The poultry and poultry products judging team is selected by the team coach, H. M. Scott, professor of poultry science. Poultry is judged on the basis of egg production and standard qualities. The market products judged are shell eggs and dressed poultry.

Practice sessions are held at several poultry farms throughout the state. The only competitive meet is held in Chicago at the Midwest Intercollegiate poultry judging contest.

Judging Meat

The meat judging team, coached by Verlin K. Johnson, consists of three members and one alternate. Several trips will be made to packing plants to practice judging of carcasses and retail and wholesale cuts of beef, pork, and mutton. The collegiate contests are held at the American Royal and the International.

Dairy Products Judging

One of the most pleasant experiences is to be a member of the dairy products judging team, coached by E. O. Hereid. The four members selected for the judging team will be spending the next month testing ice cream, cheese, milk, and butter. They will rate the dairy products on their appearance, taste, method of packing and cleanliness.

This business of tasting ice cream and the other dairy products may sound like lots of fun, but it will take lots of practice to acquire the knack of knowing whether it is a good ice cream or cheese you have sampled.

During the week of Oct. 25-30 the team members will go to the national collegiate judging contest to be held in conjunction with the Dairy Industries Exposition at Atlantic City, N. J.

It is planned this year that the high

teams in each product will be presented with an eight hundred dollar scholarship. A committee from each college where these scholarships are presented will then pick the student to receive the benefits.

Judging Dairy Cattle

For the men interested in dairy production, there is the dairy cattle judging team, coached by E. E. Ormiston.

On September 27 a practice trip was made to Curtiss Candy Farms and to the Northern Illinois Dairy Cattle Breeders' association. A trip was also made to the Chester McCord farm at Newton and the J. C. Piper and Son farm at Sumner. After these trips the four man team was chosen. Then on October 4 this team went to Waterloo, Iowa, to compete at the National Intercollegiate Dairy Cattle Judging Contest, which was the final test for the boys.

Here you have some of the activities of the judging teams. And if you don't think these teams are worth the extra work, just ask some of the boys who have been on the teams. They would never miss it.

Mrs. Hill Leaves Ag College Office

Mrs. Kathryn Hill, principle clerk and secretary to the associate dean of the College of Agriculture, has resigned her position effective November 1.

All agriculture students and faculty know Mrs. Hill by her friendly smile and willingness to help them when they come into the College of Agriculture office. "Our job is to give good service to students," says R. R. Hudelson, associate dean. "Mrs. Hill has done an excellent job to further this aim."

Mrs. Hill began working for the agricultural economics department in September, 1941. A year later she replaced Velma Hudgins as chief clerk for the College of Agriculture.

In her six years of service, Mrs. Hill has handled the records of hundreds of students in agriculture and home economics. "Her patience and good humor were beyond any expectations," states Dean Hudelson.

Her husband, Arno Hill, graduated from the college of liberal arts and sciences in May. He is now taking graduate work and has a part time assistantship in the speech department.

Miss Dorothy Bragg, formerly secretary in the division of dairy technology, will become chief clerk replacing Mrs. Hill.



Louis B. Howard Becomes Head of Food Technology

Louis B. Howard has been appointed to head the recently formed department of food technology. The new department with a four year curriculum has been created to meet the demands of industry for plant workers, employees, and executives who have been trained in the basic sciences dealing with food.

Howard was born at Bloomington, Ill., in 1905. He received his bachelor of science degree from Purdue university in 1927. Continuing his study at the University of Chicago, Howard attained his master of science degree in 1928 and in 1930 his Ph.D.

In 1930, he entered the U. S. department of agriculture and was associated with the bureau of agricultural and industrial chemistry. From 1939 to 1940, he was assistant to the director of the Northern regional research laboratory, after which he became head of the Commodity Byproducts division of the Western Regional Research laboratory at Albany, Calif.

As head of the commodity byproducts division, Howard concentrated his work on the coordination of the research and development programs of the laboratory. These programs dealt with the dehydration of fruits and vegetables along with other methods of food processing. The four U.S.D.A. regional laboratories that carry on a major portion of the bureau's investigations were under his direction.

Howard is a member of the American Chemical society, American Association for the Advancement of Science, Institute of Food technologists, American Oil Chemists' society, and Sigma XI.



BEYOND THE HORIZON . . . a *Brighter Tomorrow*

FARMING is at the threshold of an exciting new era! Improved crop varieties promise even bigger yields. Better ways of controlling weed and insect pests are cutting crop losses. Records that keep tab of capitalization and depreciation as well as income and outgo are putting farming on a sounder business basis. Better crop rotations, contour farming, and strip cropping are saving precious topsoil—boosting farm production.

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Because the strength of America lies in her free-thinking, unregimented rural population, we all have an important stake in our agriculture. New methods . . . better machines—all things that help to keep farm people prosperous and contented—safeguard our way of life. A strong, stable agriculture is insurance against evil days—a promise of brighter tomorrows!



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FIELD DAY HIGHLIGHTS

Illinois Aggies and Home Ecers staged one of the best All-Ag field days on record this fall. Sponsored jointly by the Agricultural and Home Economics clubs, the field day provided fun, entertainment, and a big time for all present.

Highlights of this year's event are pictured above. Upper left: Hobart Hinderliter braces himself in preparation for a cold shave by a blind-folded coed, while Wayne Elliott, disguised as Humphrey the clown, looks on.

Upper right: Sleeter Bull, professor of meats, crowns Bob Mulch and Dottie Hawver as king and queen of the event. Lower left: Delores White, Meta Marie Keller, and Mary McPherson pound it out in the nail driving contest. Lower right: Art "Jake" Lappin takes first place in the pie eating contest.

THROUGHOUT Corn-Growing U.S.A.



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Horticulture Research Produces . . .**SUPERIOR PEACHES FOR ILLINOIS**

Several years of breeding and testing for new peach varieties at the University farm at Olney have yielded new varieties which are equal to or excel any variety now in production in the state. These varieties were introduced in 1946 by the agricultural experiment station and were given names with *Prairie* as a prefix.

C. J. Birkeland, assistant professor of pomology, and Carl Chaplin, assistant in horticulture research, are continuing to cross and test for new peaches that will satisfy all growers.

The earliest maturing of the new varieties is the *Prairie Daybreak*. It matures about the first of July in southern Illinois. It is distinctive in that it is fully freestone. A red blush and a light yellow flesh make it an attractive as well as appetizing fruit for the home table or the roadside market.

For hardiness, quality, appearance, and early market, the *Prairie Dawn* is the peach to look forward to. It matures shortly after the *Prairie Daybreak*.

Prairie Sunrise is a result of the same

cross as the *Prairie Dawn* but matures three to five days later. It is a vigorous tree and very productive. The fruits are entirely freestone when fully matured.

Excellent Shipping Variety

Prairie Rose is another variety which will fit in with the long peach harvest program. Its outstanding characteristic is the excellent shipping qualities which it possesses.

The *Prairie Schooner* is a successful cross resulting in fruit that matures a few days before the *Halehaven*. The fruit is large and attractive and will be especially desired because of the slight degree of oxidation that occurs during processing.

The *Prairie Clipper* should be the successor to the J. H. Hale. It produces peaches of high color and quality, and compares with the *Elberta* in hardiness and maturity.

An extension of the peach season can be obtained by growing the *Prairie Rambler* which matures three to five days later than the *Elberta*. The fruit is a large, high-quality freestone, and will do well as an Illinois product.

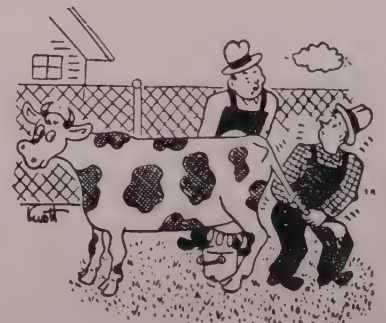
These new varieties can be obtained by growers who wish to make preliminary tests or by nurserymen who wish to establish a supply of bud wood from the Vienna Nursery company, Vienna, Ill. Those who desire only a few trees for personal use should not try to acquire these new varieties at the present, but should wait until the supply is sufficient to provide for both nurseries and home orchards.



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The Life-Saving War Drug . . .

ATRABRINE SCORES TWO MORE HITS

Atabrine, the anti-malaria drug, has taken up the battle against two more enemies of man, tularemia and undulant fever.

Dr. H. D. Ecke of Vandalia and Dean H. Ecke of the Illinois Natural History survey, Urbana, have described successful treatment of eight cases of tularemia and four cases of undulant fever with atabrine.

The drug was the principal control of malaria in the Pacific and Mediterranean theaters during the war. Atabrine was originally developed in Germany.

Tularemia, a bacteria caused disease, originally discovered in Tulare county, California (hence the name) is sometimes known as deerfly or rabbit fever, because wild rabbits are the usual transmitters of the disease to man.

However, ticks, blood sucking flies, lice and bedbugs may also be responsible. Although most infections are probably caused by eating rabbit flesh which has been undercooked or by handling or cleaning game, the bacteria can permeate unbroken skin.

Successful Cases

Dr. Ecke describes the case of a 65-year old woman who, although in the advanced stages of the disease, was cured completely in five days treatment with atabrine administered 3 times each day.

Seven other cases were treated similarly for tularemia. "Without exception," Dr. Ecke reported, "atabrine produced a favorable response within one to three days and not one case required further treatment after the fifth day. In none of these cases has there been a recurrence of symptoms."

Tularemia can be avoided by wearing rubber gloves while handling or cleaning wild game, thoroughly cooking the meat of game animals, avoiding tick infested areas (these transmit the disease between the animals), and by protecting oneself from insect bites.

Dr. Ecke employed the same treatment

in four undulant fever cases as he had used in the tularemia cases. Diagnosis of three cases of the undulant fever had been confined by laboratory study of blood samples.

In these cases, all symptoms of undulant fever disappeared within five days after atabrine was started. One patient relapsed after almost five years, but recovered after two or three days of atabrine treatment.

Although the organisms responsible for brucellosis, or undulant fever, have been known for more than 60 years, there has been no positive treatment for the disease. The disease is contracted either by handling diseased cat tle, hogs, sheep or goats, handling their hides or by eating unpasteurized dairy products from herds infected with contagious abortion or Bang's disease, as brucellosis is known in cattle.

Drugs Not Always Successful

The sulfa drugs and penicillin proved disappointing and so did streptomycin, although recently a combination of streptomycin and sulfadizine has been reported successful. Against tularemia, streptomycin has been much more successful.

However, the drug has its limitations. It is expensive and it may produce unfavorable side reactions, such as damage to cranial nerves, causing loss of balance. Also its continued use may produce a resistance against itself rendering it, ineffective if needed at some later date.

Commenting on the series of patients treated with atabrine for undulant fever and tularemia, Dr. Ecke pointed out that

none of the patients was able to afford streptomycin nor was the drug available in most cases.

"Experimentation with atabrine has given us very favorable results in all cases of tularemia and undulant fever in which it was used," the report concluded. "It is now a question of whether this treatment will give positive results when extensively used."

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"He says he won't leave until he finds out what happened to his brother."

Corn Can Starve Without Calcium

In the early part of July, a vocational agriculture teacher from southern Illinois brought in a few hills of strangely misformed corn from his neighbor's fields. He wondered what could possibly be wrong with it.

In order to determine more accurately the condition of the soil producing such corn, R. H. Bray, professor of soil fertility, and S. W. Melsted, associate professor of soil fertility, made a visit to this farm with rolling timber soil near Bone Gap in Edwards county.

The corn leaves did not unroll on the ends in the growing process. Therefore the leaf ends were all rolled tightly. This specimen was similar to artificially produced plants having calcium deficiencies.

Here is how this deficiency occurred. The farmer had limed his field with 4 tons to the acre. Then he made his bad mistake. He plowed this under deeply. On the plowed ground he put 400 pounds ammonium nitrate and 200 pounds treble super-phosphate per acre. He planted the corn and as it grew this misformed condition appeared in about 20 per cent of the corn. A test of the soil found it to be very acid.

Bray and Melsted made another visit the third week in August and found that the corn on the limed ground had recovered because the roots had reached the lime but the tract that had received no lime had not. They stated that if the farmer had used ordinary super phosphate there might have been enough calcium in it to prevent this condition. There was not enough calcium near the surface after the highly refined fertilizers had been applied.

Upon further observation, they found that this condition had existed in the community previously but had not been reported because the blame had always been attributed to poor cultivation. Thru their discoveries, they have rendered this conclusion important to all farmers in the southern part of the state. The use of limestone not only corrects acidity but also remedies a calcium and possibly a magnesium deficiency.

A new underground watering system in greenhouses uses a water table level to provide a continuous supply of water.

Vet College Cautions Of False Remedies

Stationed at the College of Veterinary Medicine is O. D. Grace, federal food and drug administration veterinarian. He investigates the usefulness of proprietary remedies sold on the market.

Grace cautions Illinois farmers to think twice before buying livestock disease remedies. He warned, "Too often a great deal of harm results from using a prepared medicine before an adequate diagnosis is made." Before buying a product to treat an animal for a condition such as worms, Grace advises that the purchaser be sure that worms are causing the trouble.

Grace works only on remedies which are shipped between states and are controlled by federal law. These remedies are sent to him for testing by field inspectors of the food and drug administration. Many of the products can be tested in the laboratories of the college. Others must be tested on diseased animals under farm conditions.

Farms Become Laboratories

When a product must be tested on a farm, Grace secures the help of a farmer whose animals are suffering from a disease the remedy is supposed to cure. Most farmers are eager to cooperate.

One of the remedies tested at the College of Veterinary Medicine was supposed to cure a variety of livestock diseases—coccidiosis, diarrhea and other diseases of poultry, necrotic enteritis of swine, scours in calves, and others. The product was found to be of no value, and interstate shipments were destroyed upon court order.

"There are on the market prepared medicines that comply with the federal law and that serve a useful purpose when used intelligently," Grace says. But he adds, "To use a medicine safely and effectively as directed on the label, an adequate diagnosis is essential."

Wash the Easy Way

Yes, in the world of today, even the household task of dishwashing can be modernized. This is done by eliminating dish-drying.

Save energy and let the dishes dry in a drainer. Dishes placed in the drainer will dry by themselves without being streaked if they have been properly wished and rinsed with boiling hot water.

To wash the dishes, use hot, sudsy water, preferably soft. If the water is hard, use a suitable detergent to produce suds. Rinse the dishes with a generous amount of boiling hot water before they cool to room temperature.

Glassware as well as china may be dried without using a towel if the hot rinse water is poured out of the glasses at once and they are turned upside down. Silverware does need to be dried with a towel.

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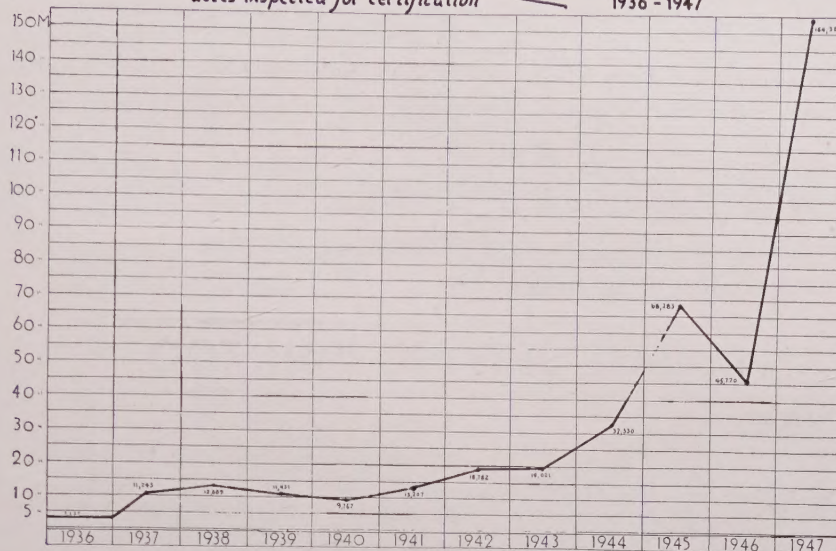
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STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACTS OF CONGRESS OF AUGUST 24, 1912, AND MARCH 3, 1933.

Of The Illinois Agriculturist published six times during the year (October, November, December, February, March and May) at Urbana, Illinois for October 1, 1948.

State of Illinois }
County of Champaign } ss.

Before me, a notary public in and for the State and County aforesaid, personally appeared George D. Johnson, who, having been duly sworn according to law, deposes and says that he is the business manager of The Illinois Agriculturist, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management and the circulation, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Act of March 3, 1933, embodied in section 537, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, Illini Publishing Company, 725 South Wright Street, Champaign, Illinois;

Editor, Harold D. Guither, Urbana, Illinois.

Business Manager, George D. Johnson, Champaign, Illinois.

2. That the owner is the Illini Publishing Company, a non-profit corporation, whose president is C. A. Moyer of Urbana, Illinois, and whose secretary is Manning D. Seil of Champaign, Illinois.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are none.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

GEORGE D. JOHNSON, Business Manager.

Sworn to and subscribed before me this 28th day of September, 1948.

(SEAL)

MARGARET E. CAIN, Notary Public.

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YOUR GUARANTEE . . .

(Continued from page 4)

tion and certification to protect the buyer, whether that be the seedsman who wishes to handle seed of a particular strain or variety or the farmer who wants to plant it.

Certification Means Protection

Just a few illustrations will serve to

show the necessity of some form of seed certification. Seed of Buffalo and Ranger alfalfa, both of which are winter hardy and are highly resistant to bacterial wilt, cannot be distinguished from the kinds which are neither winter hardy nor disease resistant. No seed analyst professes to distinguish between the seeds of the Ladino and the common White Dutch clover and yet one sells for

three or four times the cost of the other.

The seed of Kenland, a new strain of red clover that carries considerable resistance to Southern Anthracnose is indistinguishable from other red clovers which are very susceptible to this disease. No farmer who is attempting to insure his crop production program can afford to take chances on seed of doubtful or unknown variety.

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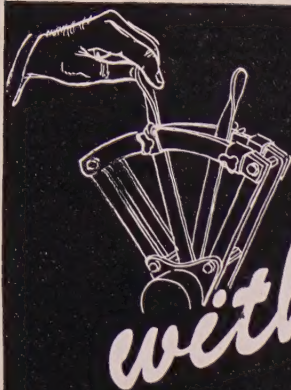
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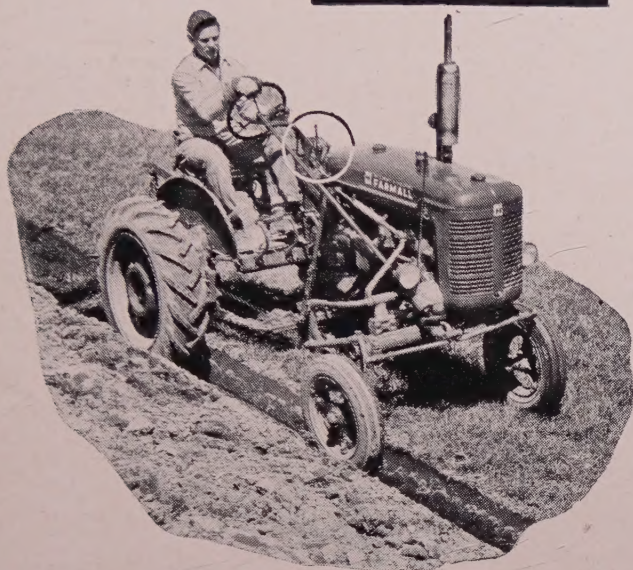
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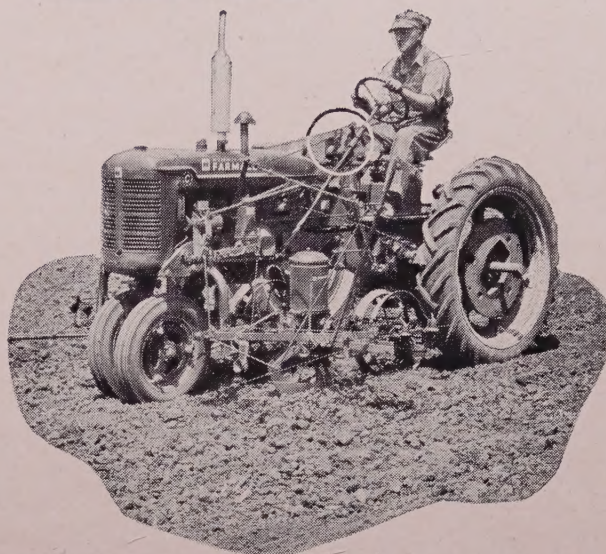
At a touch of your fingers Faster, Better, Easier Farming with **FARMALL Touch-Control**

PLOWING



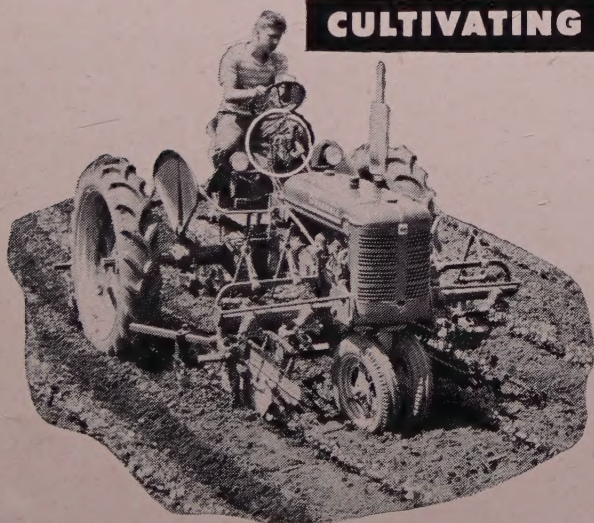
Farmall Touch-Control on this Farmall Super-A tractor lowers and raises the plow bottom and separately adjusts the drawbar height to change the depth of plowing.

PLANTING



This planter, forward-mounted on a Farmall C tractor, is easily raised by Touch-Control. Planting depth may be similarly controlled.

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In early December, 1947, the builders of MM MODERN MACHINES, VISION-LINED TRACTORS, and POWER UNITS were confronted with critical shortages of materials, chiefly metal. Stockpiles were dangerously low. The supply of new metal through normal channels was inadequate to support normal production. For one reason or another the normal sources of pig iron were temporarily cut off or their production drastically curtailed. MM was faced with the prospect of a complete shut-down—periling the jobs of thousands of MM employees and halting the manufacture of badly-needed MM Modern Machinery. The alternative was to find additional metal immediately!

Negotiations began, and on December 15, the Oliver Iron Mining Company opened its Duluth, Minnesota, pits for off-season operations. Five-thousand tons of ore—85 cars in three trains—were shipped by priority rail the morning of December 24 to a blast furnace in Texas, 1,300 miles away, one of the longest ore runs by rail on record. The shipment reached Texas December 31, and processing began at once.

January 12, 1948, the first two cars of pig

iron were received at MM plants in Minneapolis. The remaining pig iron—totaling 3,000 tons—arrived within a few days. Five thousand tons of iron ore had been mined at breakneck speed in the dead of winter—an unprecedented achievement!—shipped 1,300 miles, smelted and refined, and returned 1,200 miles IN ONLY 28 DAYS!

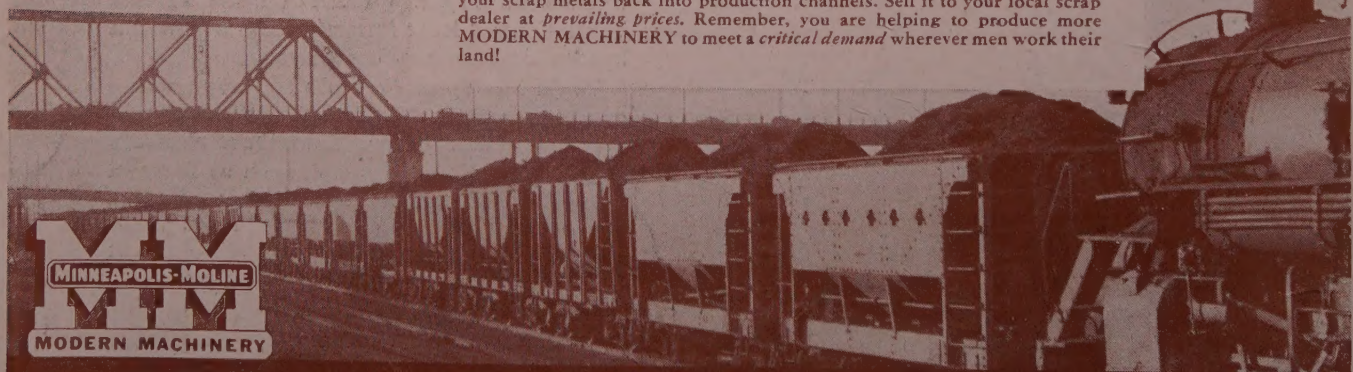
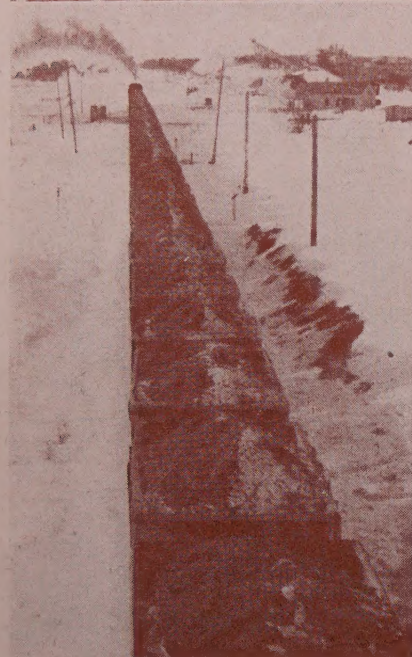
Except for the fast, hard-hitting job done by Oliver Mining Company (which employed bulldozers to remove hundreds of tons of snow even before the mining could get under way) and the speedy rail and smelter service, Minneapolis-Moline would have been forced to close down completely, perhaps for some time.

Continued production meant that more Modern Machines would be delivered to more farmers sooner. It assured quicker delivery of farm machinery at a time when an all-out effort in agriculture was a desperate need the world over.

Friendly cooperation, hard work, and ingenuity kept MM plants in operation. Hundreds of thousands of dollars in workers' wages were protected. And the production of MM VISIONLINED TRACTORS, HARVESTORS, the BALE-O-MATIC, and other quality MM MODERN MACHINES continued uninterrupted!

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Do It! To keep its plants open MM resorted to emergency measures. MM's special shipment of pig iron was a stop-gap measure temporarily easing this material shortage. You can help eliminate the shortage for good. Get all of your scrap metals back into production channels. Sell it to your local scrap dealer at prevailing prices. Remember, you are helping to produce more MODERN MACHINERY to meet a critical demand wherever men work their land!



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